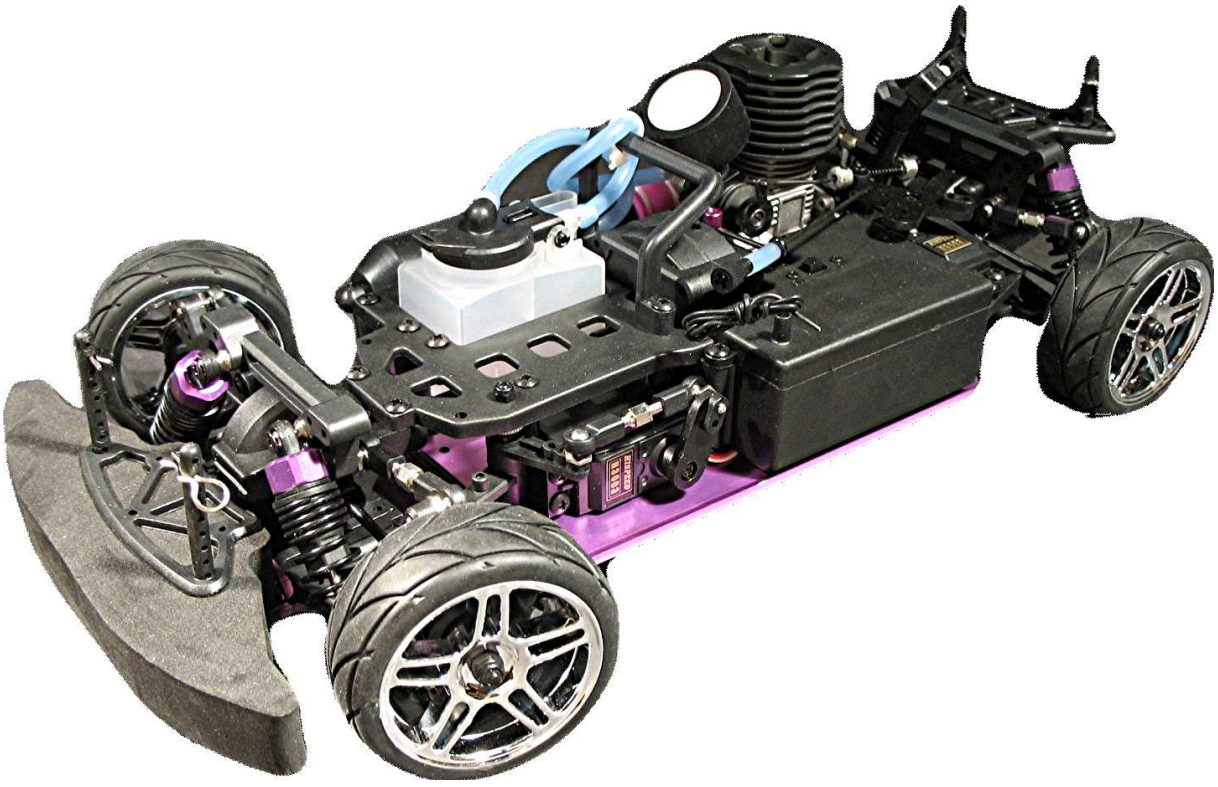
Seben-Racing

Instructions for RC cars with nitro engine

On-Road



Buggy

Monster

Warnings

Choose an appropriate racing area:

Please be aware, that this RC car is not a toy. Please use it with the necessary care to prevent personal injury and material damage. Special attention should be given to the speed of the RC car, as it can run very fast, depending on the version you bought up to 60mph. Don't use the RC car on public roads/streets, in pedestrian areas or close to other people and animals. You could cause an accident with damages to people and/or material. Don't use the RC car near tenements, retirement homes or hospitals, the noise could disturb the residents. Never use the RC car inside at home, as you could damage your interior. Never use the RC car in closed rooms, the fumes can cause severe irritations of the human respiratory tract. Recommendable for the use of your RC car are specially marked racing areas of RC clubs, or other huge, free areas on which the RC car can be used without allowance and without danger.

Check the RC car thoroughly, before running it:

Check in advance to each operation, if all screws are screwed in tightly. Pay special attention to metal screws which screw into a metal thread, e.g. the engine mount. Our advice: Use thread lock fluid for such screws to prevent an unintended loss of screws and parts during action. Make sure that the batteries or rechargeable batteries of the remote control are full or fully charged. Low batteries can be the cause of transmission failures between the remote control and your RC car. In consequence you could loose control over your RC car. Check the functioning of the brakes and the throttle lever before you start the engine. Make sure that the air filter is clean and greased. Never let your RC car run without air filter. If the engine is polluted by dust and dirt, stop your RC car immediately and clean it. Otherwise such pollution can cause severe material damage to your RC car. Before you turn on the remote control, assure yourself that no other person nearby uses the same frequency as you do.

Take precautions handling the nitro fuel:

You mustn't use normal car fuel for your RC car. There exists specially developed fuel for RC cars, which must be used. You must use 16% nitromethane. The usage of wrong fuel can cause explosions. You mustn't smoke and must avoid open flames near the nitro fuel. Non-compliance can cause an unintended combustion. Store the nitro fuel cool and out of the reach of children. Please be aware that some parts of the RC car, especially the engine and the exhaust become very hot during action (up to 170°C). Never touch these parts, before they were given enough time to cool down.

Nitro fuel is highly combustible and toxic. Always pay attention to the warnings of the manufacturer and to the security information on the labels of the packaging. RC engines emit toxic fumes and gases, which can cause irritations of the eyes and the human respiratory tract. Always wear protective clothing like rubber gloves when handling nitro fuel.

Introduction

The following pages contain all necessary information required to use the product in a safe way and to ensure a long-lasting performance of your RC car. Please study these instructions with great attention prior to first usage!

The owner of the RC model commits himself to take over responsibility for the safe usage of the vehicle in consideration of the warnings of these instructions.

Parents or supervisors are responsible to sufficiently instruct minors about the usage of the vehicle and to supervise while the RC car is in use!

If problems should occur whilst using the RC car, it is the duty of the user to stop the RC car immediately, to search for the failure and to repair it before continuing to run it (as the damage might worsen like that).

Our RC car is a sophisticated model and should be handled with caution and respect!

Only recommended accessories and materials should be used. That includes batteries, battery chargers, spare parts, tool, as well as other necessary materials. We clearly point out, that only the explicitly recommended fuel (16% nitromethane) should be used. If other fuel is used, all guarantee rights expire immediately.

If you use the car in bad weather conditions, make sure to maintain the car more frequently.

Seben-Racing or distributors of Seben-Racing are not responsible for any damage or losses, which result directly or indirectly by the usage, inappropriate usage or abuse of this product.

Legal guarantee of 2 years

Seben-Racing stands up for the quality of their products; therefore they are tested thoroughly during all single production sequences, in order to avoid faults during production. The same is valid for the finished product which we have supplied you. All products go through a further quality test before dispatch. At the same time Seben-Racing puts emphasise on highly educated staff in order to ensure qualified responses to your questions at any time.

EU law sets a minimum legal guarantee of two years on all products that are bought in the EU. That kind of protection applies in order to ensure that when you buy a product, it is a good buy. Once you buy a product, you should not then find out that it cannot really be used for its intended purpose, either because it is of poor quality or poor performance. Nor should the product turn out not to be what it was made out to be when it was sold to you. Important is the condition of the product at the time of purchase / delivery. Upon delivery it must be free of any faults. In cases where the problem is discovered within six months of purchase, the consumer's remedy is easier to obtain because one does not have to prove that the product was defective at the time of purchase. In this case the product is presumed to have been defective when it was bought and it would be up to the seller to prove the contrary. However, the legal guarantee does not cover problems that are caused by mishandling, breakage or normal wear-and-tear of the product that are basically your fault.

Faults/Damages which are not covered by guarantee:

- Damages caused by mishandling, crashes or consequential damages of crashes
- Normal wear-and-tear regarding:
  - break discs
  - brake shoes
  - drive shaft
  - cog wheels / gear wheels
  - bearings
  - straps, belts
  - accumulator, batteries
  - wheels
  - normal wear-and-tear
- Damages of electronic parts caused by intrusion of moisture
- Fallen off components and consequential damages caused by screws which were not tightened properly
- Pull starter: Don't pull out the cord more than 20cm (8") to avoid damages

All parts of this vehicle can be purchased from us for replacement purposes, either separate or in small assortments. The availability of all spare parts and the ability to repair all parts of the RC car ensures you to have fun and joy with it for a long time. If your RC car needs a repair, which is absolutely common in this hobby, we can offer you the following: All parts can be replaced in order to guarantee you a long-term usage and enjoyment of your hobby. RC cars from Seben-Racing aren't any toys which have to be thrown away after first usage.

You want to self-repair your RC car? Seben-Racing offers all spare parts for very good prices! Please simply place an order on our customer-friendly website www.seben-racing.com.

You want to let it repair by us? Please contact us and we will try to give you an estimate prior to return shipment.

How can I make a guarantee claim?

If your RC car shows a defect or fault upon delivery, which was not caused by mishandling, breakage whilst racing or normal wear-and-tear, first of all please send us an email and describe us the problem. Please do not return us the product without having talked to us. If we request specific parts or the complete car to be returned, please enclose a copy of the invoice and a problem description to the parcel. This will help us to treat your return quickly and it helps avoiding delays.

If the fault can be corrected by replacing single parts of the RC car in self-repair, we count on your cooperation and will simply send you the necessary replacement parts. In most cases this is the fastest and most convenient solution for both parties.

Please note: If returned items are to be found not faulty at all, or if the fault is not covered by guarantee, we have to charge a handling fee for our service plus the return shipping costs to you. All repairs necessary because of mishandling, breakage or normal wear-and-tear are at the costs of the owner.

Instructions

Necessary accessories

You need the following accessories to take your car into action: a fuel bottle incl. filler, a glow plug igniter, a charger for the glow plug igniter, a glow plug spanner, a cross wrench, a slot-head screwdriver and a cross-head screwdriver. Furthermore you need 12 AA Mignon accumulators or batteries; 8 of them for the remote control and 4 of them for the battery box of the car.

1. fuel bottle
2. glow plug igniter
3. charger
4. glow plug spanner
5. cross wrench
6. slot-head screwdriver
7. cross-head screwdriver

Pay attention to the correct nitro engine fuel: Only **16% nitromethane fuel must be!**

Settings and functions of the remote control

1. Antenna
2. Throttle control
3. Steering control
4. Quarz crystal (it determines the frequency)
5. Steering wheel
6. Throttel lever
7. Battery compartment for 8 AA Mignon batteries
8. On/Off switch
9. Throttle TH: reverse direction switch for throttle control servo
10. Steering ST: reverse direction switch for steering servo
11. Battery capacity display: If all three diodes shine, the batteries are fully charged; if only the red diode shines, the batteries are empty

Insertion of the batteries / accumulators for the receiver

Please loosen the three screws of the battery compartment with the cross-head screwdriver and remove the cover. Then take out the internal battery box and deposit four Mignon AA batteries in it according to the markings. Please only insert fully charged accumulators or batteries, to ensure a reliable performance of the remote control and to avoid transmission failures. Afterwards restore the battery box and close the battery compartment with the cover. Watch out that no cable runs accidentally between compartment and cover, if it gets stuck, it might break. If you can rule this out, you can fix the cover at its place by screwing in tight the three screws.

The battery compartment is not waterproof; therefore defects of electronic parts caused by humidity or moisture are not covered by guarantee! The receiver, which is also integrated in the battery compartment, can be damaged by moisture as well. Please take the necessary precautions to prevent these parts from becoming wet, otherwise you might loose control over the RC car and unintended consequential damages might be the result. Such are not covered by guarantee. Please also pay attention that no water intrudes the engine through the air filter, as this could damage the engine from the inside. Water, especially salt water, furthermore causes corrosion.

Important tests prior to running your RC car:

Always turn on the remote control (transmitter) first, then the receiver on the RC car! When finished running your RC car, always turn off the receiver first, then the remote control! Never turn on your RC car without the remote control being turned on first and vice versa when turning them off! This sequence will keep your RC car from running amok. Please proceed as described: turn on the remote control and then turn on the receiver on the RC car.

1. Remove the air filter from the carburetor. The remote control remains in a neutral position doing so, as shown in the right picture below. You can now look into the carburetor and see the carburetor valve which regulates the air/fuel mixture. It should have an aperture of 1mm (see picture below on the left). Should this aperture be larger or smaller than 1mm, it has to be reset, either with the throttle control of the remote control, or by the idle adjustment screw on the carburetor (see chapter carburetor settings).

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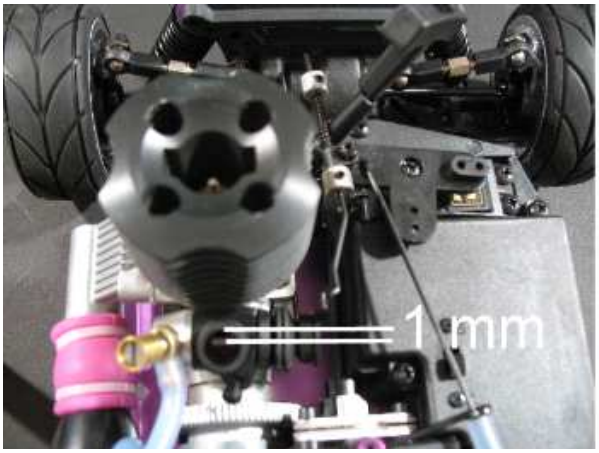

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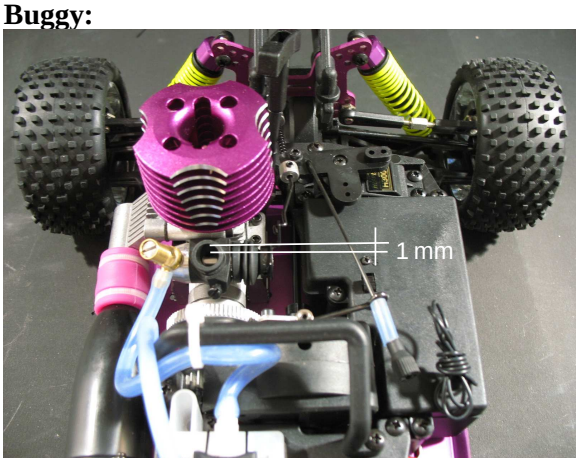

Monster:

2. The brake linkage on the servo should be set to a neutral position; you should be able to move the car back and forth easily. If this is not possible, you have to loosen the screw on the back-end of the brake linkage until you can do so.

3. If everything works all right so far, fully pull the throttle lever (see picture below on the right). This is supposed to open the carburetor completely, which can be validated by checking the aperture of the carburetor, it should be fully open now (see picture below on the left). If it is not the case, please correct the settings of the carburettor linkage. If you are finished with this step, please proceed with the next.

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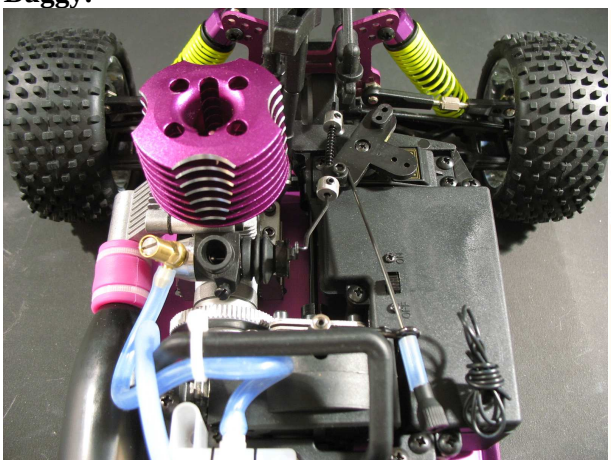

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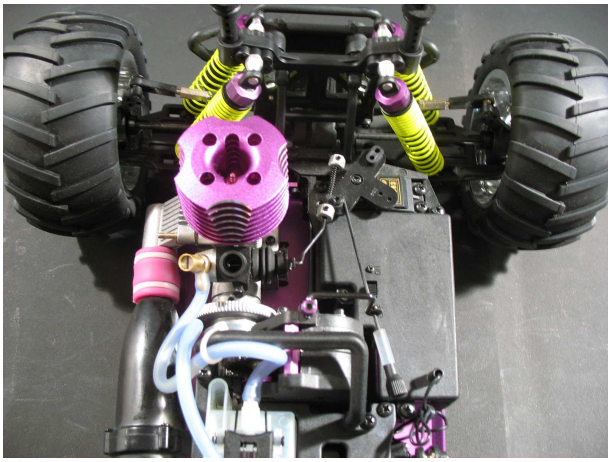

4. Push the throttle lever fully in opposite direction now (see picture below on the right); as a result the carburetor will close except for a 1mm gap. Furthermore the brake should be activated by this. The brake linkage pulls on the brake (see picture below on the left). If everything is set up correctly, it should be difficult to move the car back or forth now. If this is not the case and you are still able to move the car back and forth easily, you have to adjust the settings of the brake linkage again. When you have checked all settings (1.-4.) and finished all possibly necessary adjustments, please immediately remount the air filter again.

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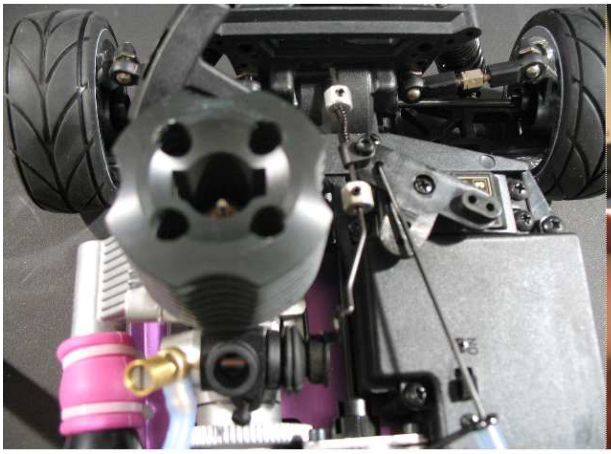

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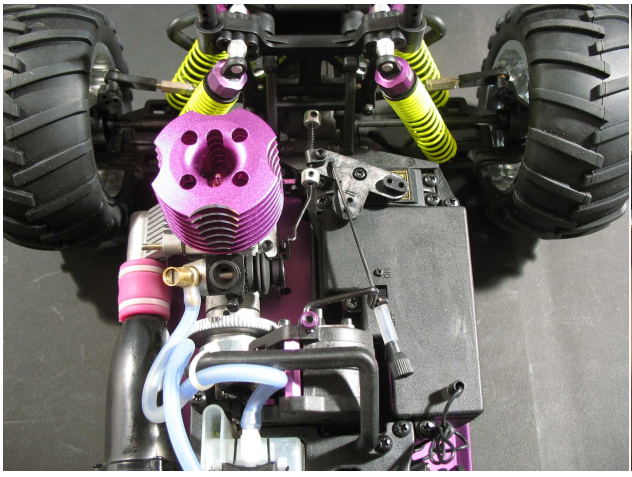

Safety check of the remote control

Prior to each run the correct functioning and range of the remote control has to be checked. We recommend doing this together with a second person. Please make sure to follow these steps: First of all switch on the remote control, then the RC car. Let the second person carry the RC car, but keep the remote control yourself. The second person should walk a couple of steps away. The first test consists of trying to send signals from the remote control to the RC car. The RC car should receive them without problems. This can be controlled by the second person who carries the RC car. If you are steering leftwards, the wheels of the RC car should move in this direction. If no commands are transmitted, the RC car should remain inactive; otherwise this is an indication for interferences. Please pursue with this procedure until the complete area where you want to drive the RC car has been tested. If you notice any problems and/or if interferences occur during the test, we must advise you to not run your RC car in this area!

Nitro engine break-in procedure

After the foregoing tests, you can “prime” the engine. Using it for the first time requires some special steps. First of all remove the lid of the tank and fill in high quality 16% nitro-methane as engine fuel. Take care not to spill any nitro fuel! If this should happen anyways, try to remove the spilled nitro fuel with a dry cloth and dispose it environmentally friendly. Please always be cautious and carefully with the nitro fuel, as it is easily combustible and toxic.

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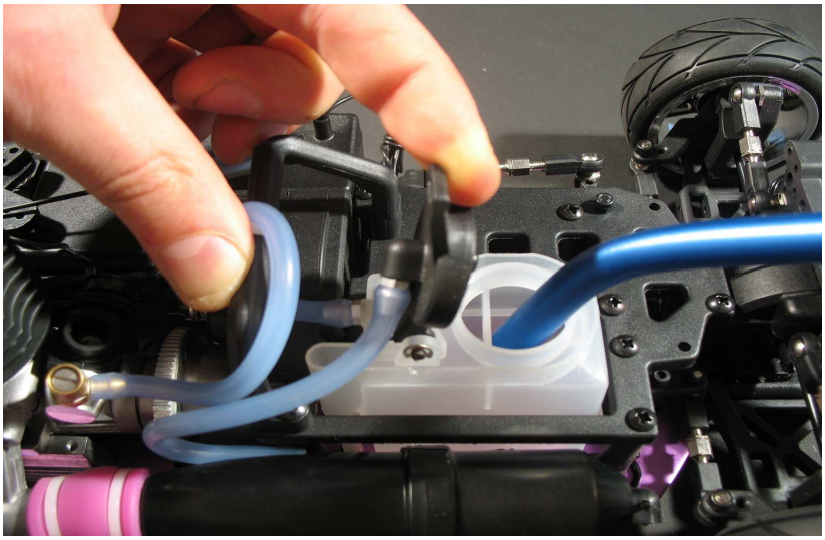

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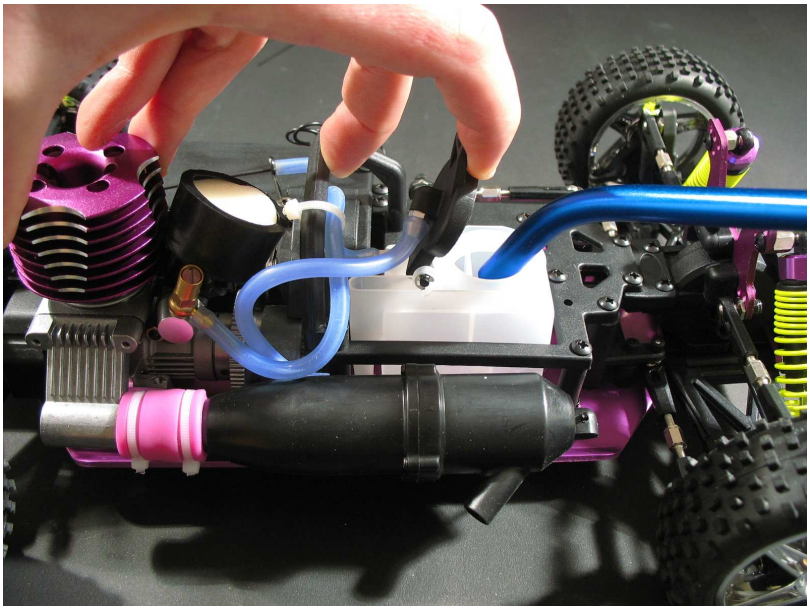

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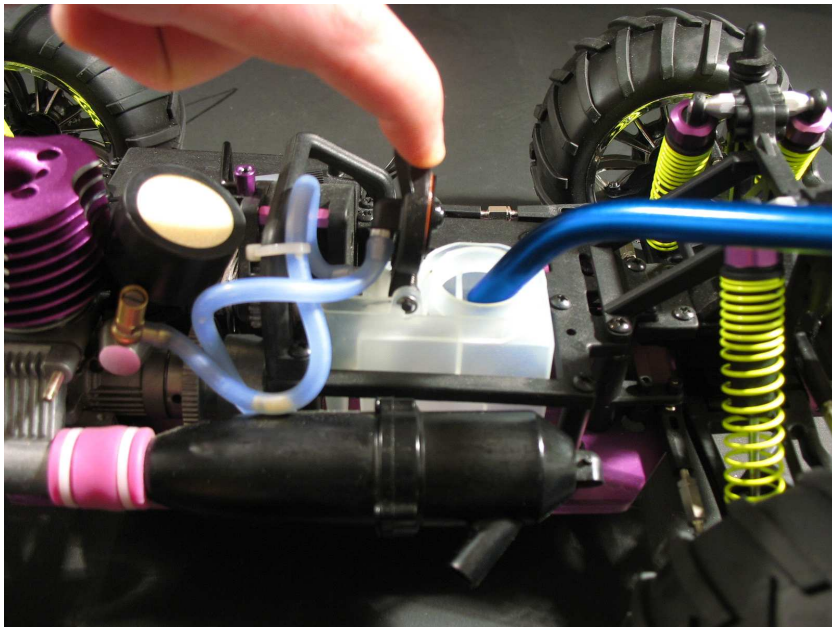

Please now follow the steps below:
To prime the engine, place your finger over the tip of the exhaust and pull the T-handle attached to the starter cord assembly to spin the flywheel and start the engine. Please do not pull the starter cord out more than 20cm, as this will damage it. Watch to see if nitro fuel is moving through the lines and continue until the nitro fuel reaches the carburetor. When the fuel reached the carburetor, pull the starter cord twice more. Then you finished priming the engine.

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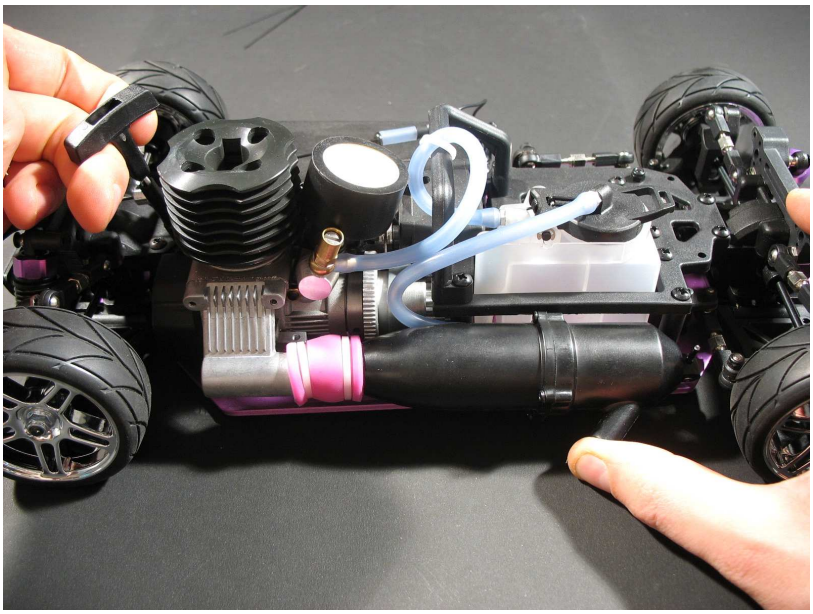

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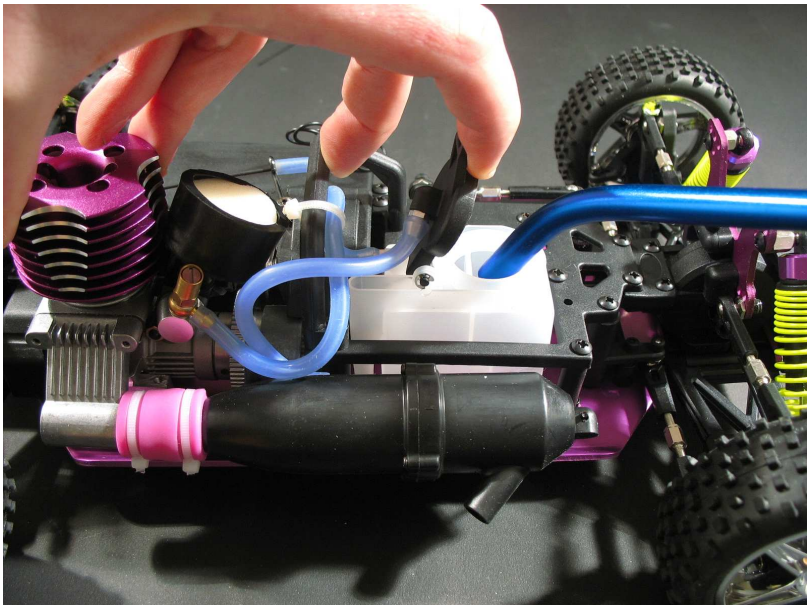

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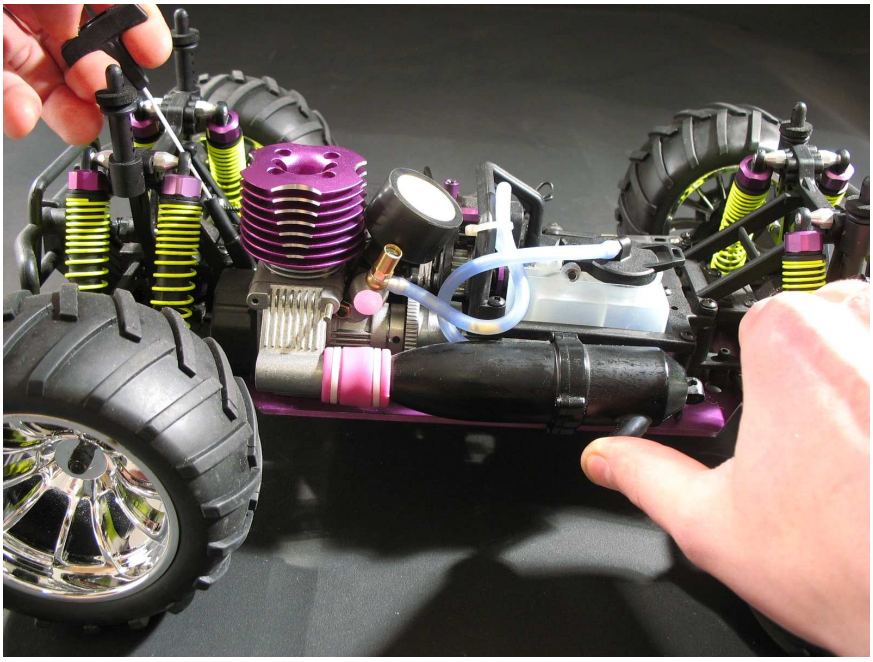
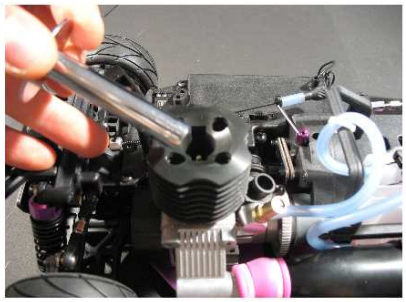
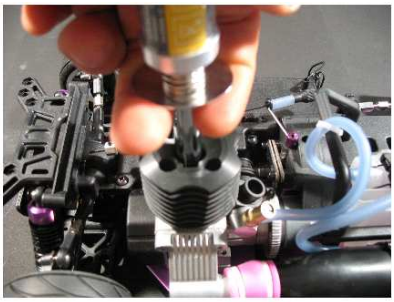


Please take the glow plug igniter now and make sure that it is fully charged. Attach it to the glow plug in the middle of the engine radiator. Assure that the glow plug igniter is attached tightly to the glow plug.

When the glow plug igniter has been attached correctly, you can start the engine by pulling the starter cord (quick short pulls). Don't pull out the starter cord more than 20cm, as it could get damaged! If the engine does not start after three attempts, please consult the troubleshooting guide on the last page before continuing. Solve the problem and try to start the engine again.

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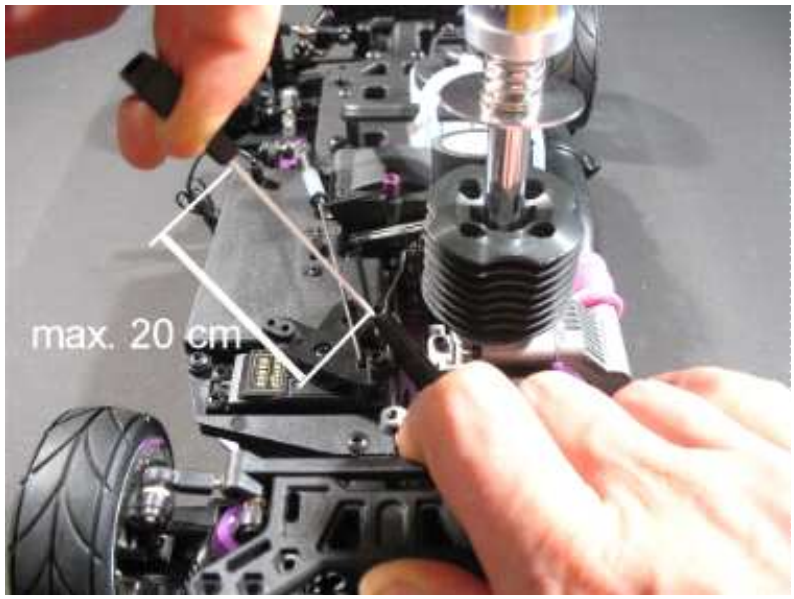

Make sure not to pull out the pull starter cord further than 20cm to avoid that it gets damaged. If it is difficult to pull on the pull starter, the reason might be that the engine is flooded with fuel. Do not proceed pulling on the pull starter then, as you could cause damages.

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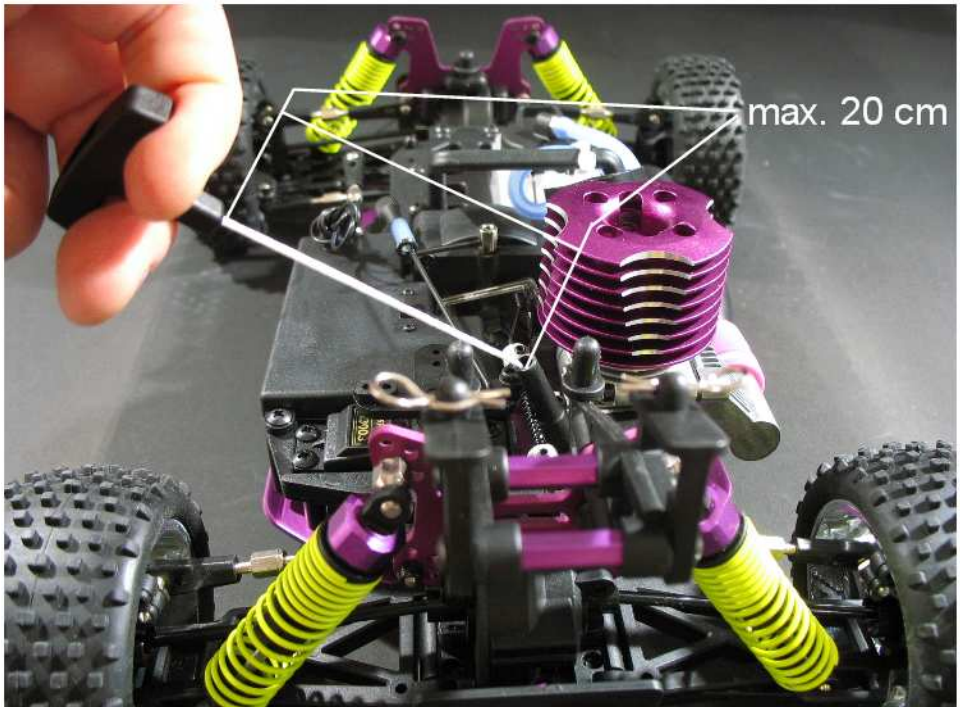

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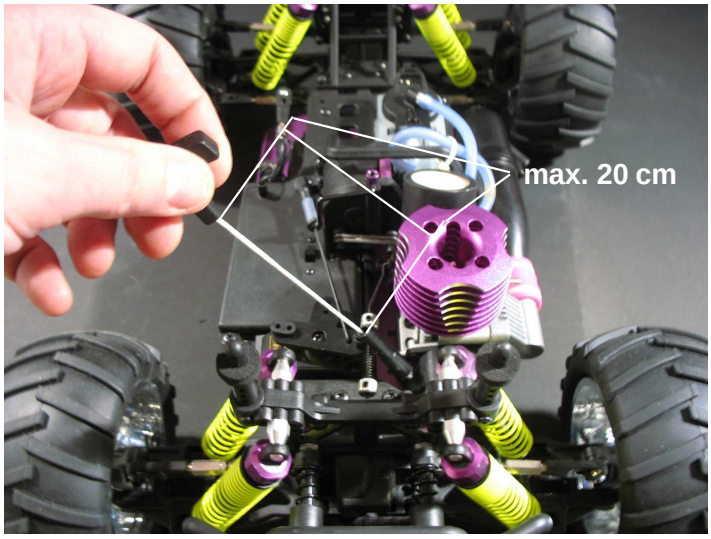
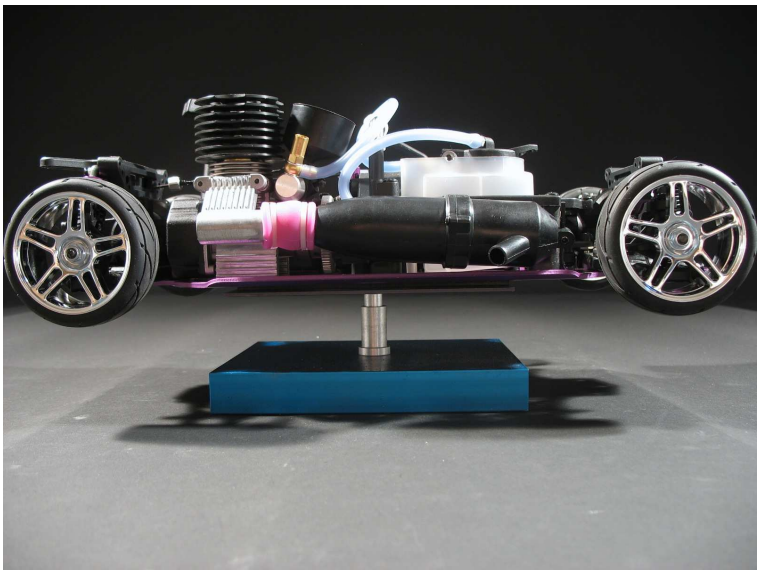
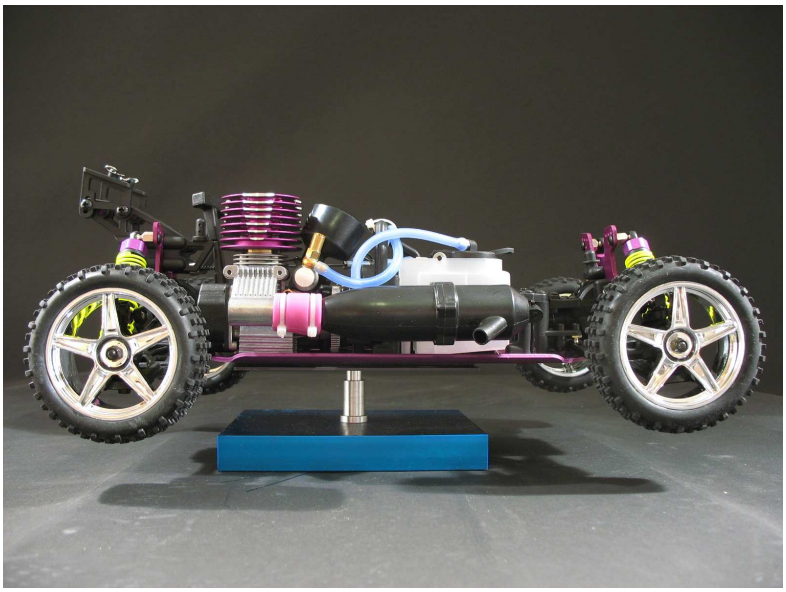


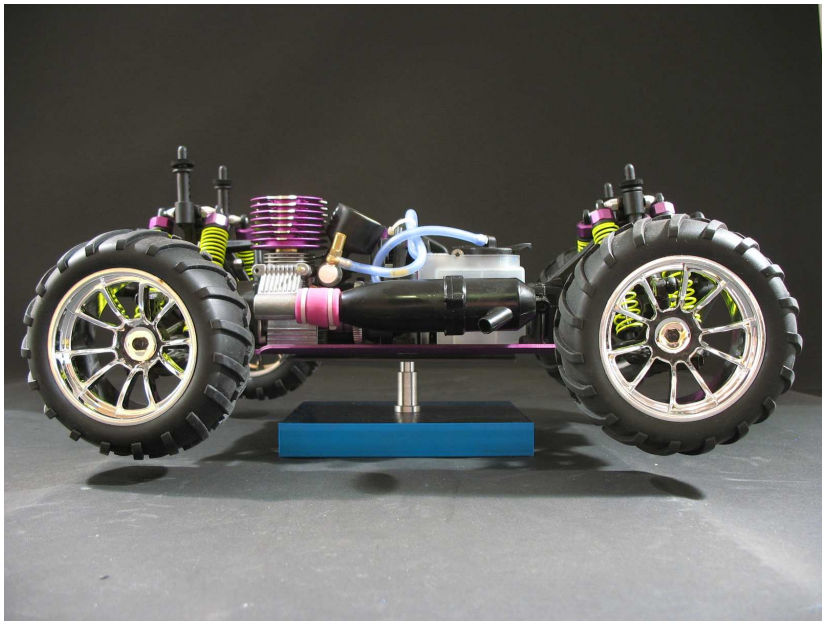
Make sure not to pull out the pull starter cord further than 20cm to avoid that it gets damaged. If it is difficult to pull on the pull starter, the reason might be that the engine is flooded with fuel. Do not proceed pulling on the pull starter then, as you could cause damages.

To shut off the engine, cover the tip of the exhaust with a towel, then it will stop. If an emergency shut off is necessary, shut off the engine by pinching the fuel line to the carburetor. You should apply this technique only in case of emergency, as temporary pinched off fuel lines could cause the engine running too lean which could then damage the engine. Therefore use this method only for emergencies.

You should always use a mounting rack when starting the RC car. The wheels should move freely, in order to avoid damages. If the engine runs at high revs (number of revolutions per minute) and the clutch engages accidentally because of that, it could inadvertently start without you being in control over it.







If the car is new and used for the first time, or if you have installed a new engine, it is important to break-in the engine. Don't run the car immediately after starting it. Without breaking-in the engine, performance and durability of the RC car will be severely affected.

Break-in procedure:

Let the engine run at idle after starting until one tank of fuel is empty. Let the engine cool down and repeat this procedure once more. When the second tank is done repeat the shut-off and cool-down steps as you did in the first tank of fuel.

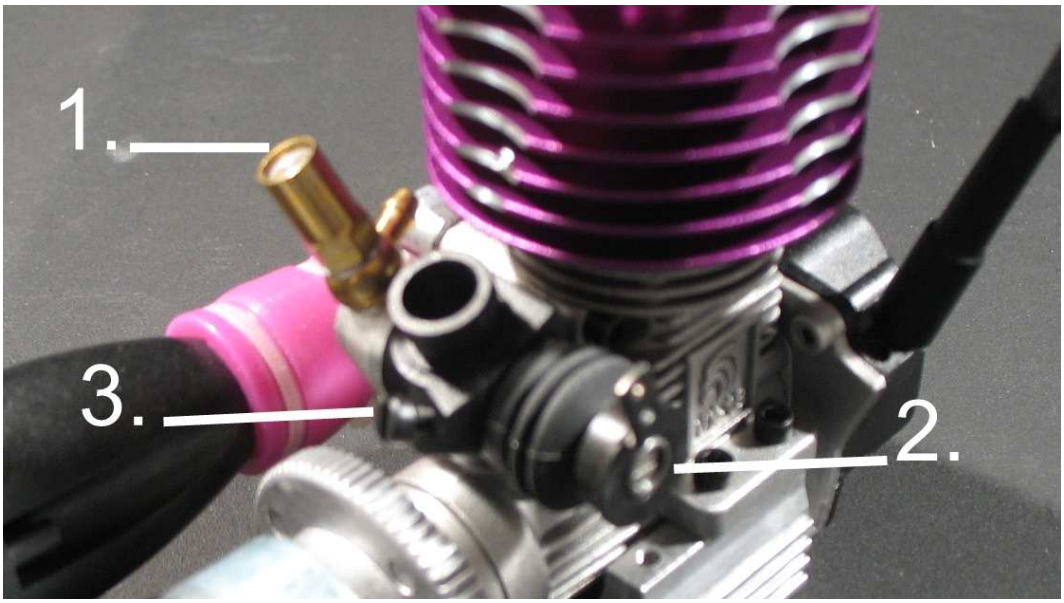
Now you can start the engine and begin to run the car slowly with the remote control. But only let it run on low and mid revs. Absolutely avoid driving the car at full speed at this point. This could damage the engine and it won't achieve maximum performance any more. Please repeat this procedure also until two tanks of fuel have been emptied. Let your engine cool down sufficiently between break-in runs.

Don't worry about the trail of blue smoke coming from the exhaust during break-in, it is normal as the carburetor still runs with a very rich air/fuel mixture at this point and the fuel can't be burned completely yet by the new engine. Also don't worry, if brown fluid drips from the exhaust. It is only unburned lube.

Make sure that the engine gets enough cooling with the body shell mounted; if necessary drill additional holes in the body shell in order to guarantee a sufficient air supply.

When you finished the break-in process, you can continue with the fine tuning of the carburetor as described in the next part of the instruction manual. But please take enough time for breaking-in your nitro engine and carry it out with attention and care. Don't rush the break-in process. The better you treat your nitro engine during break-in, the better your nitro engine will treat you.

Carburetor settings / How to lean out or richen a nitro RC car



Engine tuning and adjusting the air/fuel mixture involves adjusting the high-end (high speed / engine temperature) and low-end (low speed / idle speed) needles on the carburetor. This is also called dialling in your engine. There are base-line settings for your nitro engine that provide a good starting point for adjusting the needle settings. You'll turn each needle in very small increments to lean out or richen the fuel.

Turn clockwise to lean out or add air and counterclockwise to richen or add fuel. The low-end needle controls idling and low speeds. The high-end needle controls how the engine accelerates and runs at high speed and has a greater effect on engine temperature.

1. This is the high-end needle: Turn the needle clockwise until it is not possible to turn it any further, and then give it three counter-clockwise turns. This is the base-line setting. In order to reach the ideal high speed, turn the needle clockwise in steps of a 1/8 turn, till the car is not stalling and runs properly at high revs. If the engine begins to stall though when accelerating, richen the air/fuel mixture by turning the needle counter-clockwise in steps of a 1/8 turn, till the RC car shows a consistent performance again.
2. This is the low-end needle: This needle should be exactly even with the edge of its frame. This is the base-line setting. Tighten the needle by turning it clockwise in steps of a ½ turn, till you reach an ideal setting in the low revs.
3. This is the idle adjustment screw to raise or lower the idle revs (idle screw). Tightening the screw clockwise raises the revs, loosening the screw counter-clockwise lowers the revs.

Experts advice: Flooded engine

If your engine doesn't start, the reason could be that it is flooded with nitro fuel. That means that there is too much fuel in the combustion chamber. How to proceed to solve this: Remove the glow plug with the glow plug spanner, turn the RC car upside down and quickly pull the pull starter a couple of times to drain any excessive fuel out of the engine and carburetor. Make sure to have a rag at hand to catch the draining off fuel. Then clean and dry the glow plug and reinstall it. The engine should start without problems now.

Another indication for a flooded engine is, if the pull starter becomes harder to pull than usually.

Experts advice: Glow plug

To check the function of the glow plug, remove the glow plug from the engine radiator and simply attach the glow plug to the igniter. The heating wire of the glow plug should glow now. If not, replace the glow plug.

Troubleshooting Guide

Problem	Cause	Solution
Engine doesn't start	Tank is empty or the fuel doesn't reach the carburetor	Refill fuel tank and pump fuel to the carburetor
	Glow Plug is defective or the glow plug igniter is not charged	Exchange glow plugs or charge glow plug igniter
	Fuel lines, air filter or exhaust blocked up	Clean or exchange concerned parts
	Engine flooded	Screw off the glow plug and pump the fuel from the cylinder.
	Carburetor needles not adjusted correctly	Adjust them to the base-line setting
	Carburetor linkage not adjusted correctly	Put the servo into neutral and adjust newly
Engine starts, then stalls	Tank is empty	Refill fuel tank and pump fuel to the carburetor
	Fuel lines, air filter or exhaust clogged	Clean or replace clogged parts
	Carburetor needles not adjusted correctly	Adjust them to the base-line setting
	Engine overheated	Allow engine to cool down and adjust carburetor needles to the base-line setting
Engine responds weak to acceleration commands of the remote control	Carburetor needles not adjusted correctly	Adjust them to the base-line setting
	Low muffler/exhaust pressure	Check the fuel lines
RC car is difficult to control	Weak transmitter or receiver batteries	Charge accumulators or replace batteries
	Weak radio remote control	Extend transmitter and receiver antennas fully
	Carburetor linkage not adjusted correctly	Put servo into neutral and readjust carburetor linkage
Molten clutch discs	Brake stalls when running the RC car	Adjust brake-linkage in neutral in order that all four wheels move freely